condyles, but the entire circumference of the occipital foramen are visible. (See Pl. III.) The upper part of the supra-occipital plate presents a broad rugous depression, indicative of the insertion of strong cervical muscles, and probably of a *ligamentum Nuchæ*.*

The ex-occipital processes advance forwards for about an inch beyond the condyles, and then suddenly extend outwards at right angles to the former line, and terminate in the form of vertically compressed bony plates; the lower rugged margins of which represent or perform the office of the mastoid processes (*d*, *d*, Pls. II. and III.). The breadth of the entire occipital region of the skull (fig. 1, Pl. IV.) appears to have been, allowing for the fractures, about one-third more than the height of the same part.

The great development of the *tympanic* bones in the Rodentia, occasions the intervention of a considerable space between the occipital bone and the zygomatic process of the temporal; but in the great Toxodon, in which the sense of hearing was doubtless inferior to that enjoyed by the small and timorous Rodents, the tympanic bone is reduced to a thin plate, which is wedged in between the occiput and glenoid cavity. In this structure, and the consequent posterior position of the glenoid cavity, there is a close resemblance between the Toxodon and the Hippopotamus, Tapir, and Rhinoceros.

The *squamous* element of the temporal bone (N, Pl. II.) forms a small proportion of the lateral walls of the cranium, and also enters into the composition of the lateral and superior parts of the posterior region of the cranium, where two deep fossæ perforated by large vascular foramina, indicate the junction of the squamous bones with the supra-occipital bone. The posterior surface of the skull is thus divided into three broad and shallow depressions, the two lateral facets being slightly over-lapped by the middle one, at their junction with it. In this structure the Toxodon rsembles the Hippopotamus, and differs considerably from the Cetacea, in which the occipital region is rendered convex by the extraordinary development of the brain within.

The *zygomatic* process of the temporal bone projects boldly outwards at its commencement, where it is of great strength, and three-sided; the glenoid cavity extends transversely across the base or inferior surface of this part; the lateral surfaces converge to form the ridge or upper boundary of the zygoma. The depth of the glenoid cavity is increased by a transverse production of bone both before and behind it: the posterior process (*g*, Pl. II.) descends the lowest, and affords the requisite defence against backward dislocation of the lower jaw; the pressure of the condyle against this process is denoted by a well defined, transversely-ovate, flattened and smooth surface, as if the bone had been planed down at that

* I have ascertained that this elastic ligament exists in the neck of the Dugong.

part: the anterior transverse boundary is convex and smooth, and probably formed part of the articulation for the lower jaw. The lower facet of the zygoma anterior to the glenoid cavity gradually contracts in breadth, as it advances forward, and at the distance of three inches from the articular cavity the zygoma changes from a prismatic to a laminar form. It is at this point that the zygomatic suture commences, at the lower margin of the arch; whence it extends directly forwards for more than half its length, and then bends upwards at a right angle. The zygomatic suture has a similar course in the Capybara, and Hippopotamus.

The remainder of the zygoma is formed externally by the *malar* bone (G Pl. II.), which in its position is intermediate to the Rodent and Pachydermatous structures. It is not suspended in the middle of the zygomatic arch, as in the former order; neither does it extend into the region of the face so far anterior to the orbit as in the Tapir or Hippopotamus. The exterior line of the malo-maxillary suture defines the orbit anteriorly; but from this line the maxillary bone extends backwards, along the inner side of the malar portion of the zygoma, until it almost reaches the temporo-malar suture; thus abutting by an oblique surface against nearly the whole internal facet of the malar bone, and materially contributing to the general strength of the zygomatic arch. The malar bone is of considerable vertical extent, and presents a rugged and thickened inferior margin for the attachment of the masseter. The upper margin of the malar bone is smoothly rounded, and presents a regular semi-circular excavation, forming the lower boundary of the orbit. The relative magnitude of the zygomata to the entire cranium far exceeds in the Toxodon that which exists in the Hippopotamus or any other known Pachyderm. This arises from the great vertical development of the malar bone behind the orbit, and the vertical expansion of the temporal portion of the arch. The oblique position of the zygoma, descending as it advances forwards, is deserving of attention, as the Toxodon, in deviating from the Pachyderms in these respects, makes an evident approach to the herbivorous Cetaceans, as the Dugong and Manatee: in the latter Cetacean we observe a similar development of the lower part of the zygomatic process of the malar bone. It is here, also, that we may perceive an indication of a resemblance between the Megatherium and Toxodon.

There is no discernible trace of the *lachrymal* bone (E, Pl. II.) having extended, as in the Hippopotamus beyond the anterior boundary of the orbit: the lachrymal foramen is situated rather deep in the orbit, and the bone itself appears to have been of very small size.

The surface of the supra-orbital process of the *frontal* bone (C, Pl. II.) is deserving of attention, as it presents a peculiar ruggedness which is not found in any other part of the skull; the irregularity seems, as it were, to have been produced by the impression of numerous small tortuous and anastomosing vessels. In the